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File: JPAB

Nov 16, 1999

PUB-NO: JP411316946A

DOCUMENT-IDENTIFIER: JP 11316946 A

TITLE: DEVICE AND METHOD FOR DETECTING SUBSTRATE CRACK OF DISK INFORMATION RECORDING MEDIUM

PUBN-DATE: November 16, 1999

## INVENTOR-INFORMATION:

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## ASSIGNEE-INFORMATION:

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APPL-NO: JP10120857

APPL-DATE: April 30, 1998

INT-CL (IPC): G11 B 5/84; G11 B 7/26; G11 B 19/04

## ABSTRACT:

PROBLEM TO BE SOLVED: To provide a substrate crack detecting device and substrate crack detecting method for the disk information recording medium which can detect a crack of the substrate of the disk information recording medium fast securely at low cost.

SOLUTION: This substrate crack detecting device 10 detects a crack of the substrate of the disk information recording medium 14 constituted by providing an information recording part to the light-transmissive substrate by rotating the disk information recording medium and is equipped with a 1st detecting means 20 which irradiates the crack 70 of the substrate with light and receives its reflected light LR to detect the crack 70 of the substrate and a 2nd detecting means 24 which irradiates the crack 70 of the substrate with light from a position different from that of the 1st detecting means 20 when the disk information recording medium 14 rotates by a specific angle and receives its reflected light LR to detect the crack 70 of the substrate.

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L17: Entry 5 of 10

File: JPAB

Feb 7, 1997

PUB-NO: JP409033447A

DOCUMENT-IDENTIFIER: JP 09033447 A

TITLE: METHOD AND APPARATUS FOR DETECTING CRACK OF SUBSTRATE OF DISC-LIKE  
DATA-RECORDING MEDIUM

PUBN-DATE: February 7, 1997

## INVENTOR-INFORMATION:

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APPL-NO: JP07207867

APPL-DATE: July 21, 1995

INT-CL (IPC): G01 N 21/88; G11 B 23/00

## ABSTRACT:

PROBLEM TO BE SOLVED: To detect a crack of a substrate of a disc-like data-recording medium at high speed by shedding light on the crack of the substrate and detecting a reflecting light.

SOLUTION: A data-recording medium 4 is loaded in such a manner that a center hole 11 is fitted with a projecting part 1a of a spindle 1. An inner peripheral transparent part of the medium 4 is vacuum-chucked. A spindle motor 5 rotates a spindle 1 and the medium 4. A semiconductor laser 2a is driven by a laser-driving source 21 to emit a laser light L to a crack of a substrate at the innermost peripheral part of the medium 4 with an angle of approximately 90°. If a crack 12 is present, the laser light L enters a horizontal plane of the medium 4 with an angle of approximately 40°, is reflected at the crack, and returns to a photodetector 2b. The light is detected there and a detection signal is brought into a crack judgment part 7 through an amplifier 3, whereby the presence of the crack is determined. If the crack 12 does not exist, the laser light L is not returned to the photodetector 2b. It is thus detected that the crack 12 is not present.

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